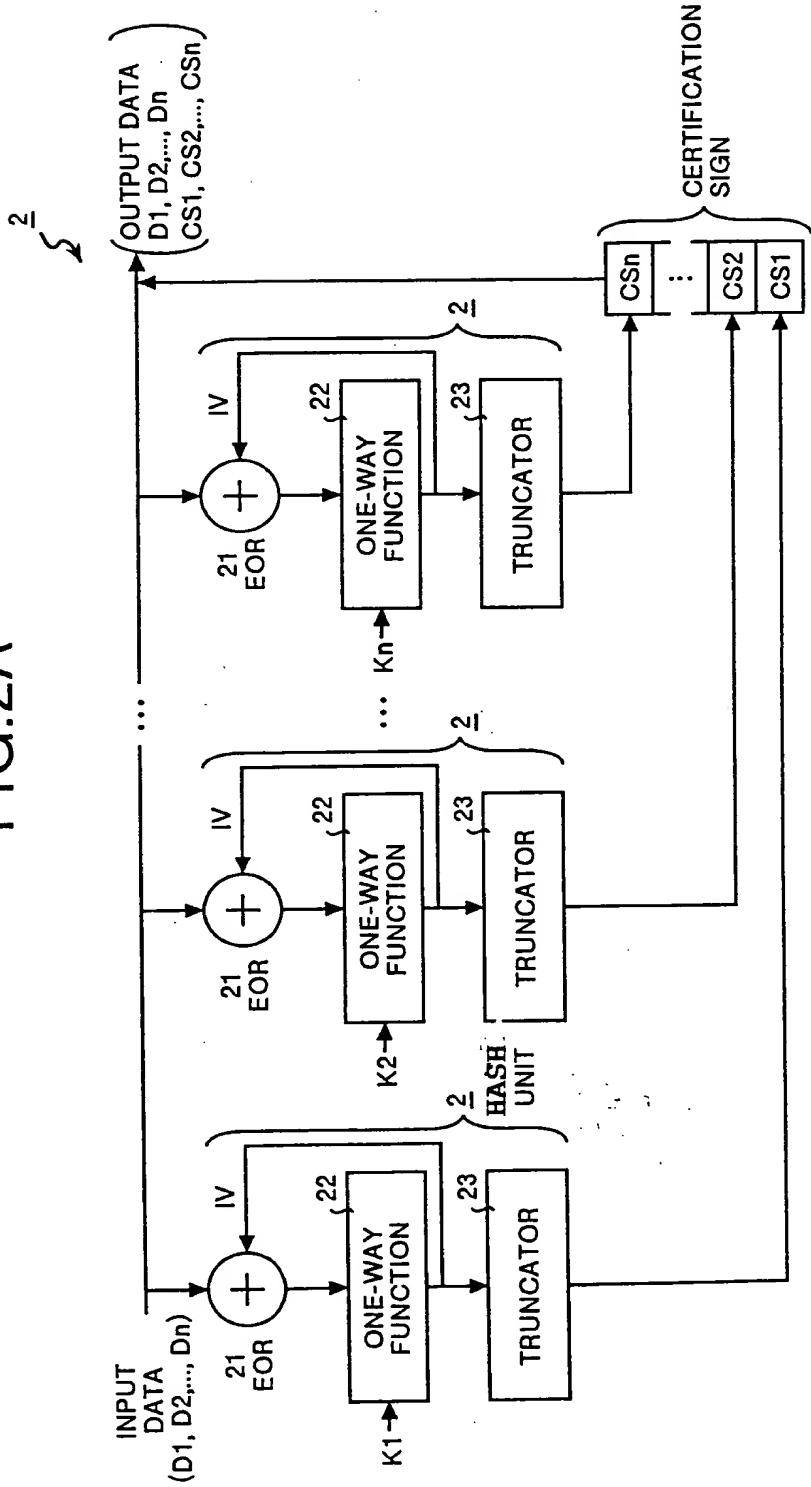


FIG. 2A



**FIG. 2B**

(b-1)CS1-GENERATING PROCESS

- ① → IV=PUBLIC CONSTANT
- ② → EK1[[V(+)]D1]=L11
- ③ → EK1[L11(+)]D2]=L12
- • •
- ④ → EK1[L1(n-1)(+)]Dn]=CS1
- ⑤ → T1[1n]=CS1

(b-2)CS2-GENERATING PROCESS  
 IV=PUBLIC CONSTANT  
 $EK2[IV^{(+)})D1]=L2^1$   
 $EK2[L21^{(+)})D2]=L22$   
 $\cdot \quad \cdot \quad \cdot$   
 $EK2[L2(n-1)^{(+})Dn]=L2n$   
 $Tn[L2n]=CS2$

(b-3)CS3-GENERATING PROCESS  
 IV=PUBLIC CONSTANT  
 $EK3[IV(+)D1]=L31$   
 $EK3[L31(+)]D2=L32$   
 $\cdot \quad \cdot \quad \cdot$   
 $EK3[L3(n-1)(+)Dn]=L3n$   
 $T[L3n]=CS3$

FIG.3A

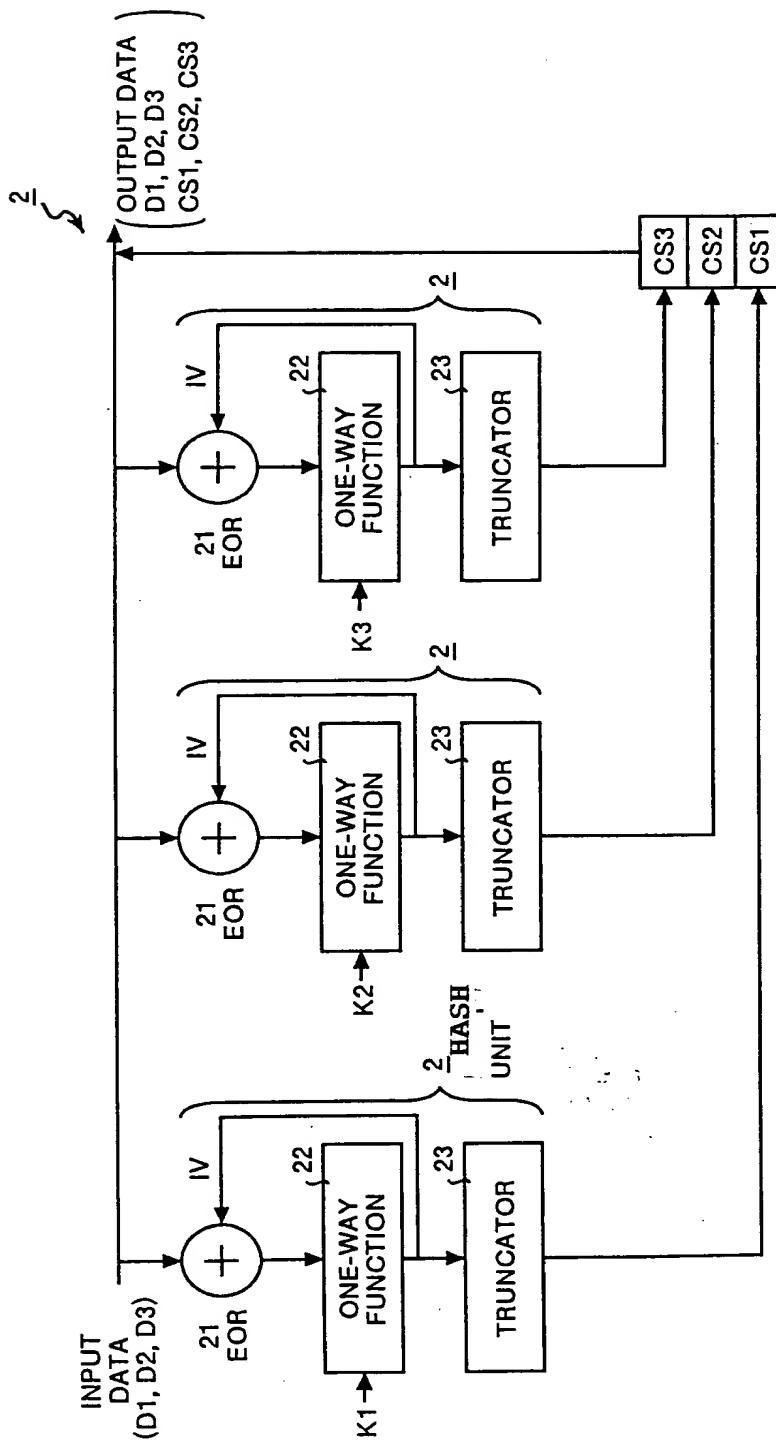


FIG.3B

**(b-1)CS1-GENERATING PROCESS**

- ①  $\rightarrow IV = \text{PUBLIC CONSTANT}$
- ②  $\rightarrow EK1[IV(+)|D1] = L_{11}$
- ③  $\rightarrow EK1[L_{11}(+)|D2] = L_{12}$
- ④  $\rightarrow EK1[L_{12}(+)|D3] = L_{13}$
- ⑤  $\rightarrow Tr[L_{13}] = CS1$

**(b-2)CS2-GENERATING PROCESS**

- IV = PUBLIC CONSTANT
- $EK2[IV(+)|D1] = L_{21}$
- $EK2[L_{21}(+)|D2] = L_{22}$
- $EK2[L_{22}(+)|D3] = L_{23}$
- $Tr[L_{23}] = CS2$

**(b-3)CS3-GENERATING PROCESS**

- IV = PUBLIC CONSTANT
- $EK3[IV(+)|D1] = L_{31}$
- $EK3[L_{31}(+)|D2] = L_{32}$
- $EK3[L_{32}(+)|D3] = L_{33}$
- $Tr[L_{33}] = CS3$